Improved Airborne Command & Control Capability (IAC3)

Purpose: To develop an advanced airborne command and control (C2) platform to provide a line-of-sight and over-the-horizon situational awareness capability to the GCE commander while airborne in any USMC aircraft capable of being a C3 platform, (i.e. UH-1, H-46, H-53, C-130, C-12 and V-22) and allow for seamless integration with legacy and future communication systems.

Background: In the mid-1970's, the ASC-26 was developed as a C2 system for the H-1 helicopter. It allowed the maneuver commander to command his forces while airborne. Recent technology has rendered the ASC-26 obsolete leaving mission coordination to be conducted via organic aircraft radios (ARC-210), often by the aircraft commander. Advancement in software-defined radios reduces the size/weight impact and now makes them desirable for airborne C2. In August 2000 an effort to reinvent the ASC-26 became known as the IAC3. A Preliminary Design Review was conducted in October 2000 and the first prototype was developed using off-the-shelf components. Results gained from testing and assessments identified areas for further modification, including: rack design, workstation orientation, antenna selection and improved man-machine interface. The Naval Research Lab was tasked to construct and provide this improved capability for participation in Kernal Blitz Experimental (KB (X)) 2001. The results of the initial LTA, conducted in the spring of 2001, determined that the technology was immature and not ready for participation in KB (X). After a fourth LTA, conducted in Nov 2002, the IAC3 was only capable being included in future experimentation but was deemed not ready for operational use.

Description: The IAC3 is a potential ASC-26 replacement package:

- Surrogate Joint Tactical Radio System (JTRS) software defined radio.
- Supports SINCGARS, UHF, VHF, narrowband SATCOM.
- Data capability using SINCGARS/SATCOM to provide ground Command and Control Personal Computer (C2PC) picture to the airborne platform.
- Supports four radio channels simultaneously.

This initiative supports the Marine Airborne Command and Control Console UNS (Draft) and the Universal Communications Interface Module (UCIM) program of record.

Deliverable Products: Prototype system that supports the UCIM program of record as the experimental airborne platform.

Milestones:

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